

REMARKS

Claims 16, 17 and 22 to 25 and 28 were rejected under 35 U.S.C. §102(b) as being anticipated by Christiansen et al. (U.S. 5,490,191). Claim 18 was rejected under 35 U.S.C. §103(a) as being unpatentable over Christiansen et al. (U.S. 5,490,191) in view of Matzner et al. (U.S. 5, 384, 814).

Claims 24 has been amended for a typographical error.

Reconsideration of the application based on the following remarks is respectfully requested.

35 U.S.C. 102(b) Rejections

Claims 16, 17 and 22 to 25 were rejected under 35 U.S.C. §102(b) as being anticipated by Christiansen et al. (U.S. 5,490,191).

Christiansen et al. discloses a boiling water reactor fuel assembly.

Claim 16 recites “a terminal end-piece for a fuel assembly of a nuclear reactor, the assembly comprising fuel rods and a skeleton for supporting the fuel rods, the fuel rods extending in a longitudinal direction and being arranged at nodes of a substantially regular network, the support skeleton comprising two terminal end-pieces and elements for connecting the terminal end-pieces, the fuel rods being arranged longitudinally between the terminal end-pieces, comprising:

an arrangement for laterally maintaining adjacent longitudinal ends of substantially all the fuel rods, the arrangement configured at nodes of the substantially regular network, wherein the maintenance arrangement constitutes an arrangement for longitudinally securing the adjacent longitudinal ends of the fuel rods relative to the terminal end-piece, and wherein the end-piece comprises two components for longitudinally clamping the adjacent longitudinal ends of the fuel rods between the two components.”

Christiansen et al. fails to teach or show “wherein the maintenance arrangement constitutes an arrangement for longitudinally securing the adjacent longitudinal ends of the fuel rods relative to the terminal end-piece, and wherein the end-piece comprises two components for longitudinally clamping the adjacent longitudinal ends of the fuel rods between the two components,” as recited in claim 16. The asserted terminal end piece, lower tie plate 54 and spring element 55 of Christiansen, laterally clamp the longitudinal ends of the

fuel rods. “The fuel rods have been extended down into the lowered fuel rod support plate and are restrained laterally by springs.” (Col 5, lines 1 to 3). “All of the other fuel rods of the fuel assembly can similarly be laterally restrained by springs within bores in the support plate.” (Col. 4, lines 61 to 63). Therefore Christiansen fails to show “an arrangement for longitudinally securing” and “for longitudinally clamping” as recited in claim 16. That the ends are not longitudinally secured is further clear from the fact that the fuel rods are free to move longitudinally. (Column 1, lines 28 to 33). Christiansen clearly does not seek to “secure” anything longitudinally, nor has the Office Action asserted that Christiansen has an arrangement for longitudinal “securing.” Because Christiansen teaches of lateral restraints and does not teach any longitudinal securing or clamping, Christiansen clearly teaches away from the “longitudinal securing” and “longitudinal clamping” as claimed.

The Office Action asserts “the lateral restraints in Christiansen also inherently provides longitudinal restraint.” However, it is not inherent that “the lateral restraints in Christiansen also inherently provides longitudinal restraint” and the Examiner fails to provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from teachings of the applied prior art. MPEP 2112 IV.

Furthermore, “restraining” is not the same as “securing” as claimed. “Restraining” is to “confine within limits” whereas “secured” is “firmly fixed” or “fastened.” Also “not liable to fail, yield, become displaced, etc., as a support or a fastening.” (See attached copy of definitions). The Final Office Action fails to assert the securing language.

Finally, the fuel rods are free to move longitudinally. (Column 1, lines 28 to 33) Christiansen thus teaches there is no longitudinal securing. The Office action asserts that there is movement only during fuel reactor operations and not at all times. The Office Action points to no maintenance arrangement at other times that would meet claim language.

Withdrawal of the rejection of independent claim 16 under 35 U.S.C. §102 and dependent claims 17 and 22 to 25 is respectfully requested.

With regard to claim 24, which partially recites “the maintenance arrangement constitutes an arrangement for longitudinally securing the adjacent longitudinal ends of the fuel rods relative to the terminal end-piece, and wherein the end-piece comprises two components that longitudinally clamp between the components the adjacent longitudinal ends

of the fuel rods.” As discussed above Christiansen et al. fails to teach or show “longitudinal securing the adjacent longitudinal ends of the fuel rods relative to the terminal end piece,” and “the end piece comprises two components that longitudinally clamp between the components the adjacent longitudinal ends of the fuel rods.” The asserted terminal end piece, lower tie plate 54 and spring 55, laterally restraining.

35 U.S.C. 103(b) Rejections

Claim 18 was rejected under 35 U.S.C. §103(a) as being unpatentable over Christiansen et al. (U.S. 5,490,191) in view of Matzner et al. (U.S. 5, 384, 814).

In light of the discussion above, withdrawal of the rejection is respectfully requested.

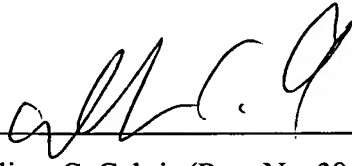
CONCLUSION

It is respectfully submitted that the application is in condition for allowance and applicants respectfully request such action.

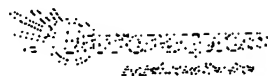
If any additional fees are deemed to be due at this time, the Assistant Commissioner is authorized to charge payment of the same to Deposit Account No. 50-0552.

Respectfully submitted,

DAVIDSON, DAVIDSON & KAPPEL, LLC

By: 
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re-strain[ree-streyn] [Show IPA Pronunciation](#) [?](#)

-verb (used with object), verb (used without object)

to strain again.

Origin:1870-75; RE- + STRAIN ¹

Language Translation for : restrain

Spanish: **refrenar(se)**, **contenerse**, German: **zurückhalten**, Japanese: **抑える**[View 30 other languages »](#)

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re-strain[ri-streyn] [Show IPA Pronunciation](#) [?](#)

-verb (used with object)

1. to hold back from action; keep in check or under control;
 repress: *to restrain one's temper.*
2. to deprive of liberty, as by arrest or the like.
3. to limit or hamper the activity, growth, or effect of: *to restrain trade with Cuba.*

Origin:

1350-1400; ME *restreynen* < MF *restreindre* < L *restringere* to bind back, bind fast, equiv. to *re-* RE- + *stringere* to draw together; see STRAIN ¹

Dictionary.com Unabridged (v 1.1)

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[Cite This Source](#)**re-strain**(rĭ-strān') [Pronunciation Key](#)tr.v. **re-strained**, **re-strain-ing**, **re-strains**

1. a. To hold back or keep in check; control: *couldn't restrain the tears.*

- b. To hold (a person) back; prevent: *restrained them from going.*
2. To deprive of freedom or liberty.
3. To limit or restrict.

[Middle English *restreinen*, from Old French *restraindre*, *restreign-*, from Latin *restringere*, *to bind back*; see **restrict**.]

re·strain'a·ble *adj.*, **re·strain**'ed·ly (-strā'nid-lē) *adv.*,
re·strain'er *n.*

Synonyms: These verbs mean to hold back or keep under control. *Restrain* implies restriction or limitation, as on one's freedom of action: "*a wise and frugal government, which shall restrain men from injuring one another*" (Thomas Jefferson). To *curb* is to restrain as if with reins: "*You might curb your magnanimity*" (John Keats). *Check* implies arresting or stopping, often suddenly or forcibly: "*a light to guide, a rod/To check the erring*" (William Wordsworth). To *bridle* is often to hold in or govern one's emotions or passions: *I tried with all my might to bridle my resentment.* *Inhibit* usually connotes a check on one's actions, thoughts, or emotions: *A fear of strangers inhibited his ability to travel.*

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restrain

c.1340, from stem of O.Fr. *restraindre*, from L. *restringere* "draw back tightly, confine, check" (see **restriction**). *Restraint* "action of restraining" is recorded from c.1400, from O.Fr. *restrainte*, prop. fem. pp. of *restraindre*. Meaning "means of restraint" is recorded from 1421.

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restrain

verb

1. keep under control; keep in check; "suppress a smile"; "Keep your temper"; "keep your cool"
2. place limits on (extent or access); "restrict the use of this parking lot"; "limit the time you can spend with your friends" [syn: **restrict**]
3. to close within bounds, limit or hold back from movement; "This holds the local until the express passengers change trains"; "About a dozen animals were held inside the stockade"; "The illegal immigrants were held at a detention center"; "The terrorists held the journalists for ransom"
4. hold back
5. to compel or deter by or as if by threats [syn: **intimidate**]

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Main Entry: **re·strain**

Pronunciation: ri-'strAn

Function: *transitive verb*

- 1 a** : to prevent from doing something —see also *restraining order*
at **ORDER 3b** **b** : to limit, restrict, or keep under control
2 : to moderate or limit the force, effect, development, or full exercise of
3 : to deprive of liberty and esp. of physical movement

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Restrain

Re*strain"v., v. t. [imp. & p. p. **Restrained**; p. pr. & vb. n. **Restraining**.] [OE. *restreinen*, F. *restreindre*, fr. L. *restringere*,

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restric-tum; pref. re- re- + stringere to draw, bind, or press together. See Strain, v. t., and cf. Restrict.]

1. To draw back again; to hold back from acting, proceeding, or advancing, either by physical or moral force, or by any interposing obstacle; to repress or suppress; to keep down; to curb.

Restrain in me the cursed thoughts that nature Gives way to in repose! --Shak.

2. To draw back toghtly, as a rein. [Obs.] --Shak.

3. To hinder from unlimited enjoiment; to abridge.

Though they two were committed, at least restrained of their liberty. --Clarendon.

4. To limit; to confine; to restrict. --Trench.

Not only a metaphysical or natural, but a moral, universality also is to be restrained by a part of the predicate. --I. Watts.

5. To withhold; to forbear.

Thou restrained prayer before God. --Job. xv. 4.

Syn: To check; hinder; stop; withhold; repress; curb; suppress; coerce; restrict; limit; confine.

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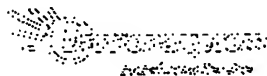
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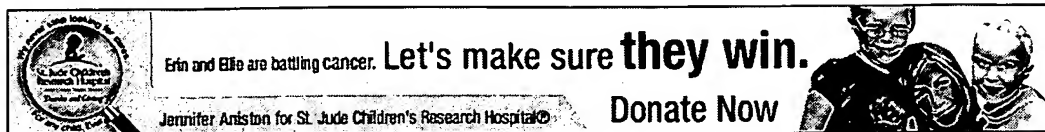
Synonyms

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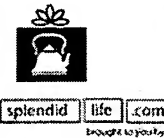
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se-cure[si-kyoor] [Show IPA Pronunciation](#) **adjective, -cur-er, -cur-est, verb, -cured, -cur-ing.****-adjective**

1. free from or not exposed to danger or harm; safe.
2. dependable; firm; not liable to fail, yield, become displaced, etc., as a support or a fastening: *The building was secure, even in an earthquake.*
3. affording safety, as a place: *He needed a secure hideout.*
4. in safe custody or keeping: *Here in the vault the necklace was secure.*
5. free from care; without anxiety: *emotionally secure.*
6. firmly established, as a relationship or reputation: *He earned a secure place among the baseball immortals.*
7. sure; certain; assured: *secure of victory; secure in religious*

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belief.

8. safe from penetration or interception by unauthorized persons: *secure radio communications between army units.*

9. *Archaic.* OVERCONFIDENT.

—verb (used with object)

10. to get hold or possession of; procure; obtain: *to secure materials; to secure a high government position.*
11. to free from danger or harm; make safe: *Sandbags secured the town during the flood.*
12. to effect; make certain of; ensure: *The novel secured his reputation.*
13. to make firm or fast, as by attaching: *to secure a rope.*
14. *Finance.*
- a. to assure payment of (a debt) by pledging property.
- b. to assure (a creditor) of payment by the pledge or mortgaging of property.
15. to lock or fasten against intruders: *to secure the doors.*
16. to protect from attack by taking cover, by building fortifications, etc.: *The regiment secured its position.*
17. to capture (a person or animal): *No one is safe until the murderer is secured.*
18. to tie up (a person), esp. by binding the person's arms or hands; pinion.
19. to guarantee the privacy or secrecy of: *to secure diplomatic phone conversations.*
- verb (used without object)
20. to be or become safe; have or obtain security.
21. *Nautical.*
- a. to cover openings and make movable objects fast: *The crew was ordered to secure for sea.*
- b. to be excused from duty: *to secure from general quarters.*

Origin:

1525–35; < L *sēcūrus* carefree, equiv. to *sē-* SE- + *cūr(a)* care (see CURE) + *-us* adj. suffix; cf. SURE

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Language Translation for : secure

Spanish: **seguro**, German: **sicher**, Japanese: 安全な

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se·cure (sē-kyŏŏr') [Pronunciation Key](#)

adj. **se·cur·er**, **se·cur·est**

1. Free from danger or attack: *a secure fortress.*
2. Free from risk of loss; safe: *Her papers were secure in the vault.*
3. Free from the risk of being intercepted or listened to by unauthorized persons: *Only one telephone line in the embassy was secure.*
4. Free from fear, anxiety, or doubt.
5.
 - a. Not likely to fail or give way; stable: *a secure stepladder.*
 - b. Firmly fastened: *a secure lock.*
6. Reliable; dependable: *secure investments.*
7. Assured; certain: *With three goals in the first period they had a secure victory, but somehow they lost.*
8. *Archaic* Careless or overconfident.

tr.v. **se·cured**, **se·cur·ing**, **se·cures**

1. To guard from danger or risk of loss: *The troops secured the area before the civilians were allowed to return.*



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2. To make firm or tight; fasten. See Synonyms at [fasten](#).
3. To make certain; ensure: *The speaker could not secure the goodwill of the audience.*
4.
 - a. To guarantee payment of (a loan, for example).
 - b. To guarantee payment to (a creditor).
5. To get possession of; acquire: *secured a job.*
6. To capture or confine: *They secured the suspect in the squad car.*
7. To bring about; effect: *secured release of the hostages.*
8. To protect or ensure the privacy or secrecy of (a telephone line, for example).

[Latin *sēcūrus* : *sē-*, *without*; see *s(w)e-* in Indo-European roots + *cūra*, *care*; see [cure](#).]

se·cure'a·ble *adj.*, **se·cure'ly** *adv.*, **se·cure'ment** *n.*,
se·cure'ness *n.*, **se·cure'r** *n.*

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secure

1533, "without care," from L. *securus* "without care, safe," from **se cura*, from *se* "free from" (see [secret](#)) + *cura* "care" (see [cure](#)). The verb is from 1593. Meaning "firmly fixed" (of material things) is from 1841, on notion of "affording grounds for confidence." Security is attested from 1432, from L. *securitas*, from *securus*; phrase security blanket in figurative sense is attested from 1971, in ref. to the crib blanket carried by the character Linus in the "Peanuts" comic strip (1956).

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secure

adjective

1. free from fear or doubt; easy in mind; "he was secure that nothing will be held against him" [ant: [insecure](#)]
2. free from danger or risk; "secure from harm"; "his fortune was secure"; "made a secure place for himself in his field" [ant: [insecure](#)]
3. not likely to fail or give way; "the lock was secure"; "a secure foundation"; "a secure hold on her wrist" [ant: [insecure](#)]
4. immune to attack; incapable of being tampered with; "an impregnable fortress"; "fortifications that made the frontier inviolable"; "a secure telephone connection" [syn: [impregnable](#)]
5. financially sound; "a good investment"; "a secure investment" [syn: [dependable](#)]

verb

1. get by special effort; "He procured extra cigarettes even though they were rationed" [syn: [procure](#)]
2. cause to be firmly attached; "fasten the lock onto the door"; "she fixed her gaze on the man" [syn: [fasten](#)] [ant: [unfasten](#)]
3. assure payment of
4. make certain of; "This nest egg will ensure a nice retirement for us"; "Preparation will guarantee success!" [syn: [guarantee](#)]
5. fill or close tightly with or as if with a plug; "plug the hole"; "stop up the leak" [syn: [plug](#)]
6. furnish with battens; "batten ships" [syn: [batten](#)]

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Main Entry: **se·cure**

Function: *transitive verb*

Inflected Forms: **se·cured**; **se·cur·ing**

1 : to put beyond hazard of losing or not receiving <secure the blessings of liberty —*U.S. Constitution* preamble>

2 a : to protect or make certain (as by lien) *secure* the parties' respective interests —*Denton v. Lazenby*, 879 Pacific Reporter, Second Series 607 (1994)> **b** : to give security for (as a loan) or otherwise assure the payment, performance, or execution of with security *secure* the judgment> **c** : to give or pledge security to (as a creditor); *broady* : to cause to have security or a security interest *secured by a lien on real property*>

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Secure

Se*cure", a. [L. securus; pref. se- without + cura care. See [Cure](#) care, and cf. [Sure](#), a.]

1. Free from fear, care, or anxiety; easy in mind; not feeling suspicion or distrust; confident.

But thou, secure of soul, unbent with woes. --Dryden.

2. Overconfident; incautious; careless; -- in a bad sense. -- Macaulay.

3. Confident in opinion; not entertaining, or not having reason to entertain, doubt; certain; sure; -- commonly with of; as, secure of a welcome.

Confidence then bore thee on, secure Either to meet no danger, or to find Matter of glorious trial. --Milton.

4. Not exposed to danger; safe; -- applied to persons and things, and followed by against or from. "Secure from fortune's blows." -- Dryden.

Syn: Safe; undisturbed; easy; sure; certain; assured; confident; careless; heedless; inattentive.

Secure

Se*cure", v. t. [imp. & p. p. [Secured](#); p. pr. & vb. n. [Securing](#).]

1. To make safe; to relieve from apprehensions of, or exposure to, danger; to guard; to protect.

I spread a cloud before the victor's sight, Sustained the vanquished, and secured his flight. --Dryden.

2. To put beyond hazard of losing or of not receiving; to make certain; to assure; to insure; -- frequently with against or from, rarely with of; as, to secure a creditor against loss; to secure a debt by a mortgage.

It secures its possessor of eternal happiness. --T. Dick.

3. To make fast; to close or confine effectually; to render incapable of getting loose or escaping; as, to secure a prisoner; to secure a door, or the hatches of a ship.

4. To get possession of; to make one's self secure of; to acquire certainly; as, to secure an estate.

Secure arms (Mil.), a command and a position in the manual of arms, used in wet weather, the object being to guard the firearm from becoming wet. The piece is turned with the barrel to the front and grasped by the right hand at the lower band, the muzzle is dropped to the front, and the piece held with the guard under the right arm, the hand supported against the hip, and the thumb on the rammer.

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